

**WE CLAIM:**

1. A method for the expression of a somatotropin in plants said method comprising:

5 (a) introducing into a plant cell a chimeric nucleic acid sequence comprising:

(1) a first nucleic acid sequence capable of regulating the transcription in said host cell of

10 (2) a second nucleic acid sequence, wherein said second sequence encodes a recombinant fusion polypeptide and comprises (i) a nucleic acid sequence encoding a sufficient portion of an oleosin protein to provide targeting of the recombinant fusion polypeptide to a lipid phase, linked in frame to (ii) a nucleic acid sequence encoding said somatotropin; and

15 (3) a third DNA sequence encoding a termination region functional in said plant cell; and

(b) growing said plant cell to produce said recombinant fusion polypeptide.

20 2. The method according to claim 1 further including separating the recombinant fusion polypeptide from cellular host cell components by selective partitioning into a lipid phase.

3. The method according to claim 1 further including separating the recombinant fusion polypeptide from cellular host components by selective partitioning into a lipid phase comprising oil bodies.

25 4. The method according to claim 3 wherein said recombinant fusion polypeptide is separated by addition of oil body components and reconstitution of the oil bodies.

5. A method according to claim 1 wherein said somatotropin is a fish growth hormone.

6. A method according to claim 5 wherein said fish growth hormone is carp growth hormone.

7. A chimeric nucleic acid sequence encoding a recombinant fusion polypeptide comprising (i) a nucleic acid sequence encoding a sufficient portion of an oleosin protein to provide targeting of the recombinant fusion polypeptide to a lipid phase, linked in reading frame to (ii) a nucleic acid sequence encoding a somatotropin.

8. A chimeric nucleic acid sequence according to claim 7 having the nucleic acid sequence shown in SEQ.ID.NO.:1.

9. A chimeric nucleic acid sequence, capable of being expressed in association with an oil body of a plant cell, comprising:

(1) a first nucleic acid sequence capable of regulating the transcription in said plant cell

(2) a second nucleic acid sequence, wherein said second sequence encodes a recombinant fusion polypeptide and comprises (i) a nucleic acid sequence encoding a sufficient portion of an oleosin protein to provide targeting of the recombinant fusion polypeptide to a lipid phase, linked in reading frame to (ii) a nucleic acid sequence encoding a somatotropin; and

(3) a third nucleic acid sequence encoding a termination region functional in said host cell.

10. A chimeric nucleic acid sequence according to claim 9 wherein said somatotropin is a fish growth hormone.

11. A chimeric nucleic acid sequence according to claim 10 wherein said fish growth hormone is carp growth hormone.

12. A plant transformed with a chimeric nucleic acid sequence according to claim 9.

13. A plant according to claim 10 wherein said plant is selected from the group comprising rapeseed (*Brassica* spp.), linseed/flax (*Linum usitatissimum*), safflower (*Carthamus tinctorius*), sunflower (*Helianthus annuus*), maize (*Zea mays*), soybean (*Glycine max*), mustard (*Brassica* spp. and *Sinapis alba*), crambe, (*Crambe abyssinica*), eruca (*Eruca sativa*), oil palm (*Elaeis guineensis*), cottonseed (*Gossypium* spp.), groundnut (*Arachis hypogaea*), coconut (*Cocos nucifera*), castor bean (*Ricinus communis*), coriander (*Coriandrum sativum*), squash, (*Cucurbita maxima*), Brazil nut (*Bertholletia excelsa*) and jojoba (*Simmondsia chinensis*).
- 10 14. A plant seed containing a chimeric nucleic acid sequence according to claim 9.
- 15 15. A plant seed according to claim 14 wherein said seed is obtained from a dicotyledonous plant.
- 15 16. A plant seed according to claim 14 wherein said somatotropin is expressed in the embryogenic tissue of the seed.
17. A plant seed comprising a recombinantly expressed somatotropin.
18. A plant seed according to claim 17 wherein said somatotropin is expressed as a fusion protein.
- 20 19. A plant seed according to claim 18 wherein said fusion protein comprises an oleosin.
20. A plant seed according to claim 17 wherein said somatotropin is expressed in the embryogenic tissue of said seed.
- 25 21. A plant seed according to claim 19 wherein said somatotropin is expressed in the embryogenic tissue of said seed.

22. A plant seed according to claim 21 wherein said somatotropin is fish growth hormone.

23. A plant seed according to claim 18 wherein said plant seed is obtained from a dicotyledonous plant.

5 24. A plant seed according to claim 18 wherein said seed is exalbuminous seed.

25. A plant seed according to claim 18 wherein said plant seed is obtained from the group of plants comprising rapeseed (*Brassica* spp.), linseed/flax (*Linum usitatissimum*), safflower (*Carthamus tinctorius*),  
10 sunflower (*Helianthus annuus*), maize (*Zea mays*), soybean (*Glycine max*), mustard (*Brassica* spp. and *Sinapis alba*), crambe, (*Crambe abyssinica*), eruca (*Eruca sativa*), oil palm (*Elaeis guineensis*), cottonseed (*Gossypium* spp.), groundnut (*Arachis hypogaea*), coconut (*Cocos nucifera*), castor bean (*Ricinus communis*), coriander (*Coriandrum sativum*), squash, (*Cucurbita maxima*), Brazil  
15 nut (*Bertholletia excelsa*) and jojoba (*Simmondsia chinensis*).

26. A fusion polypeptide encoded for by a chimeric nucleic acid sequence comprising (i) a nucleic acid sequence encoding a sufficient portion of an oil body protein to provide targeting of the fusion polypeptide to an oil body linked in reading frame to (ii) a nucleic acid sequence encoding a  
20 somatotropin.

27. A fusion polypeptide comprising a somatotropin linked to an oil body protein.

28. A fusion polypeptide according to claim 27 having the sequence shown in SEQ.ID.NO.:2.

25 29. A fusion polypeptide according to claim 27 wherein said somatotropin is biologically active.